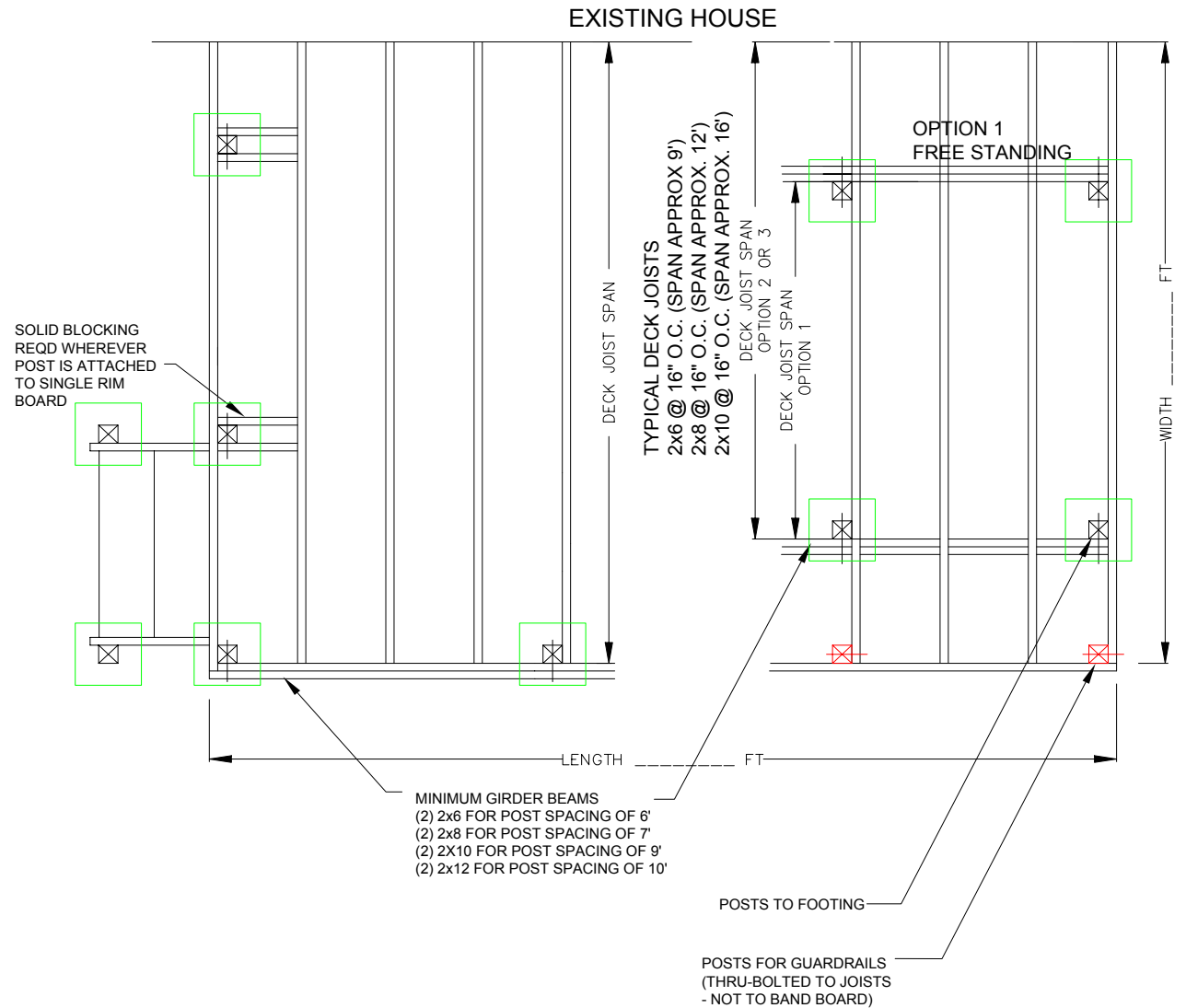


## DECK DESIGN

THESE DESIGN SHEETS ARE PROVIDED FOR A SIMPLE, SINGLE LEVEL HOUSE DECK. IF A HOT TUB OR OTHER SPECIAL USE IS INTENDED, SEE A DESIGN PROFESSIONAL. THERE ARE MANY EXCELLENT REFERENCE BOOKS AVAILABLE FROM HARDWARE STORES, LIBRARY OR THE INTERNET TO PROVIDE CUSTOM DESIGNS AND CONSTRUCTION METHODS.

### HOW TO DESIGN A DECK:

1. SKETCH YOUR PLAN (GRAPH PAPER MAY HELP), SHOW THE RELATIONSHIP OF YOUR EXISTING HOUSE TO THE NEW DECK. DRAW STAIRS. PRINT OVERALL DIMENSIONS ON YOUR PLAN. SHOW THE APPROXIMATE LOCATION OF YOUR POSTS. IF POSTS ARE MORE THAN 12' APART, ADD INTERMEDIATE POST(S) TO KEEP THE SPAN(S) SHORTER.
2. FOR YOUR CONVENIENCE, WE HAVE PROVIDED TYPICAL CROSS-SECTION SKETCHES ON SHEET 2. USE THEM IF YOU PREFER OR DESIGN YOUR OWN SKETCHES.
3. IF YOU CHOSE THE SKETCHES PROVIDED, SELECT THE CROSS-SECTION VIEW THAT MATCHES YOUR PLAN. THERE ARE TWO DESIGN OPTIONS (A OR B) FOR THE END OF THE DECK FARTEST AWAY FROM THE HOUSE, AND THREE DESIGN OPTIONS (1,2 OR 3) FOR THE END OF THE DECK CLOSEST TO THE HOUSE.
4. WE HAVE PROVIDED YOU WITH TYPICAL WOOD MEMBER SIZES FOR YOUR REFERENCE.
5. PREPARE A PLAT PLAN (PROPERTY PLAN) SHOWING THE LOCATION OF YOUR HOUSE. THE DECK AND OTHER BUILDINGS IN RELATIONSHIP TO THE PROPERTY LINES. PROVIDE THE APPROXIMATE DIMENSIONS OF THE DECK TO THE PROPERTY LINES. (YOU PROBABLY RECEIVED A PLAT PLAN WHEN YOU PURCHASED YOUR HOUSE: USE IT AND DRAW ON THE DECK.)
6. SUBMIT 1 COPY OF YOUR PLAT PLAN, AND 2 COPIES OF THE DECK PLAN AND CROSS-SECTION DETAILS.
7. PAY THE PERMIT FEE.
8. YOU WILL NEED THE FOLLOWING INSPECTIONS:
  - A. FOOTING HOLE INSPECTION PRIOR TO CONCRETE POUR.
  - B. FINAL INSPECTION.



**OPTION A  
TYPICAL FLUSH PLAN**

**OPTION B  
TYPICAL CANTILEVER PLAN**

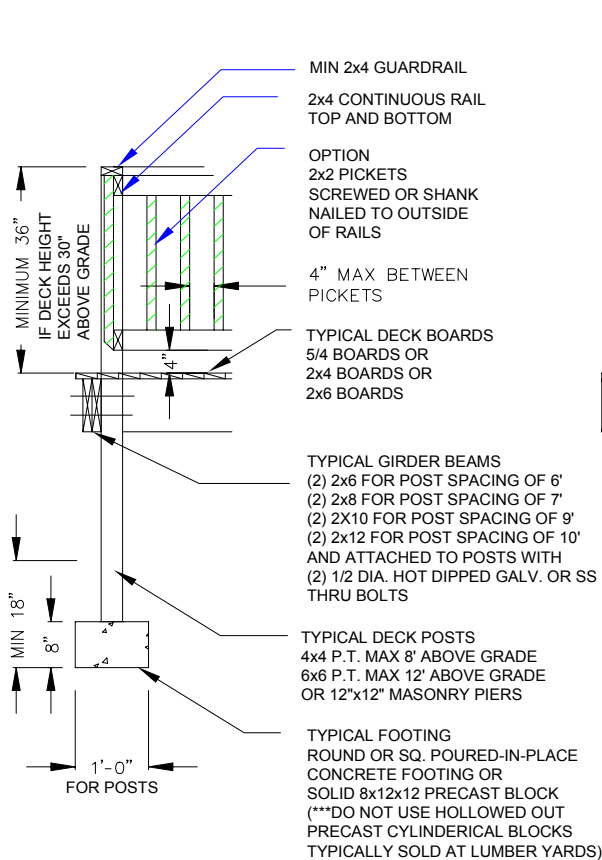
**OPTION "A"**  
FLUSH POST DESIGN

**OPTION "B"**  
CANTILEVER DESIGN

**OPTION "1"**  
RECOMMENDED!!!  
FREE STANDING  
(NOT ATTACHED TO  
HOUSE)  
NOTE: MUST BE BRACED  
FOR LATERAL STABILITY

**OPTION "2"**  
ATTACH TO HOUSE BAND  
INSTALL THE LEDGER  
SO THAT THE TOP OF  
THE DECKING IS  
1" BELOW THE INTERIOR  
FLOOR HEIGHT.

**OPTION "3"**  
ATTACH TO FOUNDATION



NOTE - FRAMING SHALL BE BASED ON 40# PER SQ FT LIVE LOAD, AND 10# PER SQ FT DEAD LOAD. DO NOT SET HOT TUB ON THIS DECK WITHOUT FURTHER SUPPORTS AS REQUIRED BY A DESIGN PROFESSIONAL.

DECK SIZE: \_\_\_\_\_ FT LONG x \_\_\_\_\_ FT WIDE

SPECIFY TWO ENDS OF DECK - (A OR B) AND (1,2 OR 3) AND STRUCTURAL ELEMENTS

\_\_\_ OPTION A: FLUSH POSTS DESIGN

OR \_\_\_ OPTION B: CANTILEVER DESIGN

\_\_\_ OPTION 1: FREE STANDING DESIGN

OR \_\_\_ OPTION 2: ATTACH TO HOUSE BAND

OR \_\_\_ OPTION 3: ATTACH TO FOUNDATION WALL

DECK JOISTS 2X \_\_\_\_\_ @ \_\_\_\_\_ " O.C.

GIRDER BEAMS (\_\_\_\_\_) 2X \_\_\_\_\_

P.T. POSTS \_\_\_\_\_ x \_\_\_\_\_ @ \_\_\_\_\_

DECK BOARDS \_\_\_\_\_ x \_\_\_\_\_

PREFERRED OPTION  
2x2 PICKETS  
NAILED TO INSIDE  
OF RAILS

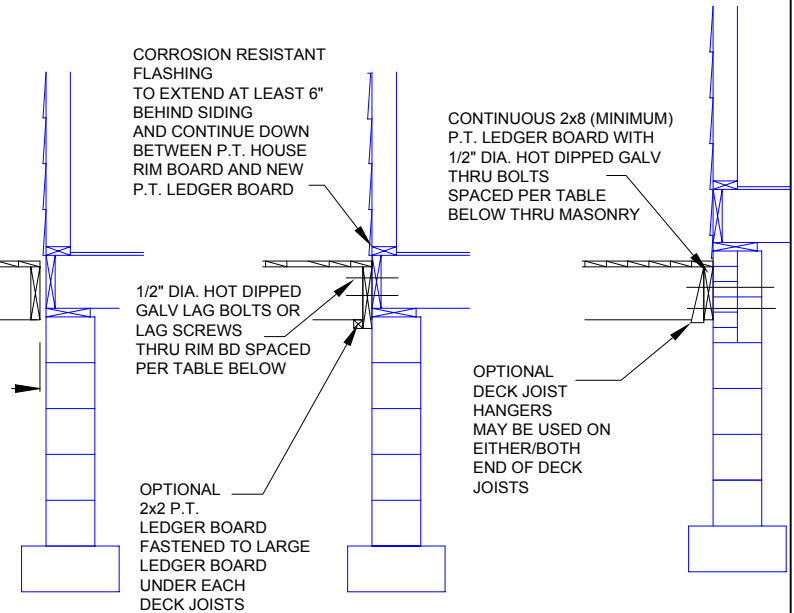
4x4 GUARDRAIL POST  
WITH MAX SPACING OF 6'-0"  
NOTE - DO NOT NOTCH  
GUARD RAIL POSTS  
FOR RIM BOARDS  
ATTACH POSTS TO DECK  
JOISTS WITH (2) 1/2" DIA  
HDG OR SS THRU-BOLTS

TYPICAL DECK JOISTS  
2x6 @ 16" O.C. (SPAN APPROX 9')  
2x8 @ 16" O.C. (SPAN APPROX. 12')  
2x10 @ 16" O.C. (SPAN APPROX. 16')

OPTION - MAY  
NOTCH DECK  
POSTS FOR  
GIRDERS

NOTE:  
POSTS DO NOT  
HAVE TO BE  
EMBEDDED OR  
MECHANICALLY  
FASTENED TO  
FOOTINGS

\*\*\*WARNING ON FASTENERS:  
CHECK WITH YOUR MATERIAL  
SUPPLIER FOR FASTENERS  
COMPATIBLE WITH THE  
PRESSURE TREATED LUMBER  
(USE COMPATIBLE BOLTS,  
SCREWS, NAILS AND  
HANGERS)



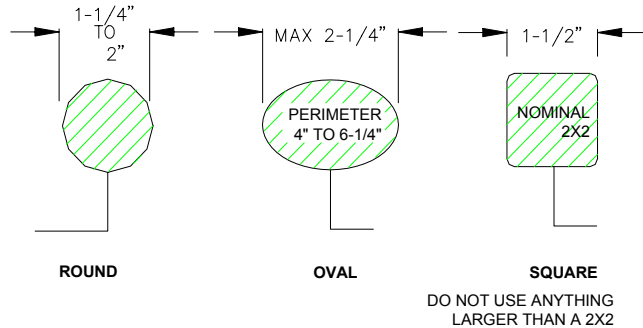
On-Center Spacing for Fasteners Attaching Decks to Houses

Joist span (ft)	6' and less	6'-1" 8'-0"	8'-1" 10'-0"	10'-1" 12'-0"	12'-1" 14'-0"	14'-1" 16'-0"	16'-1" 18'-0"
1/2" x 4" Lag Screws	30"	23"	18"	15"	13"	11"	10"
1/2" Bolt w/ washers	36"	36"	34"	29"	24"	21"	19"

Notes:

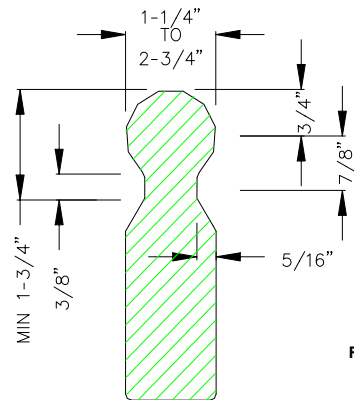
1. The maximum gap between the face of the ledger board and face of the house band joist shall be 1/2".
2. The tip of the lag screw shall fully extend beyond the inside of the band joist (board).
3. Ledgers shall be flashed to prevent water from contacting the house band joist (board).
4. Lag screws and bolts shall be staggered and shall not be closer than 2" to the top and bottom of the ledger.
5. Deck ledgers shall be 2x8 Southern Pin (minimum) or other approved method and material as established by standard engineering practice.

# TYPICAL STAIR DETAILS



## TYPE 1 HANDRAIL PROFILE

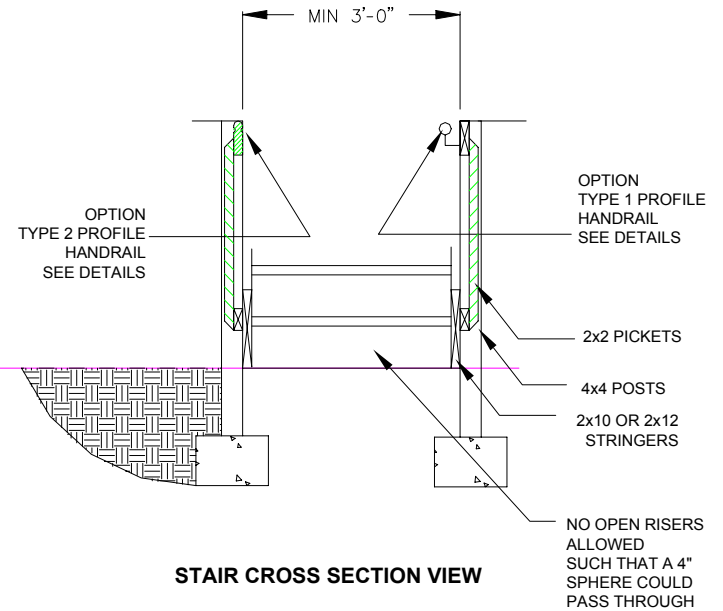
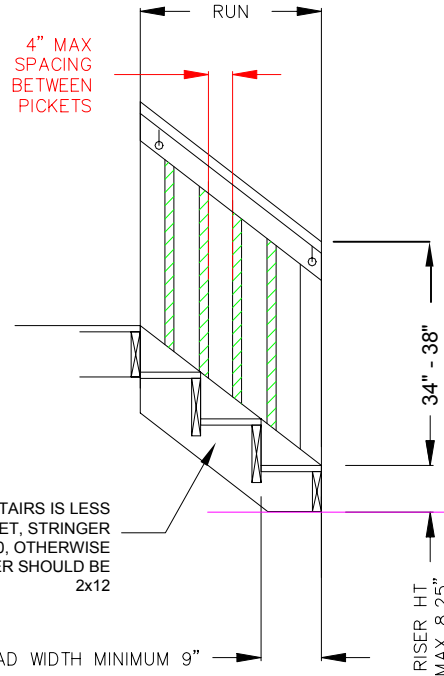
HANDRAILS WITH A CIRCULAR CROSS-SECTION SHALL HAVE AN OUTSIDE DIAMETER OF AT LEAST 1-1/4" AND NOT GREATER THAN 2". IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER OF AT LEAST 4" AND NOT GREATER THAN 6-1/4" WITH A MAXIMUM CROSS SECTION OF 2-1/4"



## TYPE 2 HANDRAIL PROFILE

HANDRAILS WITH A PERIMETER GREATER THAN 6-1/4" SHALL PROVIDE A GRASPABLE FINGER RECESS ON BOTH SIDES OF THE PROFILE. THE FINGER RECESS SHALL:

1. BEGIN WITHIN A DISTANCE OF 3/4" MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND
2. ACHIEVE A DEPTH OF AT LEAST 5/16" WITHIN 7/8" BELOW THE WIDEST PORTION OF THE PROFILE. THE REQUIRED DEPTH SHALL CONTINUE FOR AT LEAST 3/8" TO A LEVEL THAT IS NOT LESS THAN 1-3/4" BELOW THE TALLEST PORTION OF THE PROFILE. THE MINIMUM WIDTH OF THE HANDRAIL ABOVE THE RECESS SHALL BE 1-1/4" TO A MAXIMUM OF 2-3/4" EDGES SHALL HAVE A MINIMUM RADIUS OF .01"

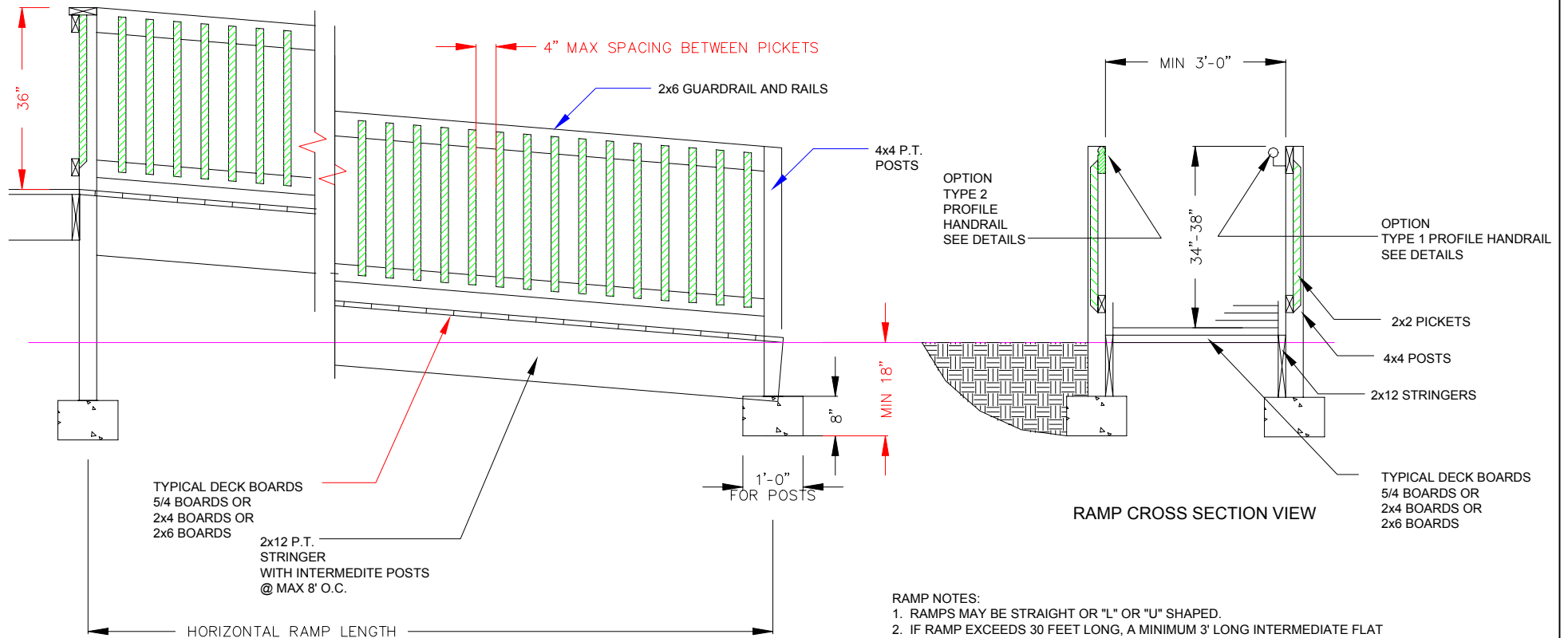


## STAIR CROSS SECTION VIEW

## STAIR NOTES:

1. HANDRAILS ARE REQUIRED IF STAIRWAY HAS FOUR OR MORE RISERS.
2. HANDRAILS TO BE 34-38" ABOVE NOSING OF STAIR ON AT LEAST ONE SIDE.
3. NO OPENINGS GREATER THAN 4" ARE ALLOWED IN RISERS.
4. REFER TO SHEET 2 FOR TYPICAL DECK DETAILS.
5. HANDRAIL PROFILE SHALL BE EITHER:  
TYPE 1 ROUND OR OVAL WITH BOTTOM SUPPORTING BRACKETS OR  
TYPE 2 CUSTOM DESIGNED WITH BUILT IN HAND HOLDS AS PRESCRIBED BY VIRGINIA CODE.

# TYPICAL RAMP DETAILS



## RAMP NOTES:

1. RAMPS MAY BE STRAIGHT OR "L" OR "U" SHAPED.
2. IF RAMP EXCEEDS 30 FEET LONG, A MINIMUM 3' LONG INTERMEDIATE FLAT LANDING IS REQD.
3. ADA COMPLIANT RAMP: MAX SLOPE = 1" VERTICAL FOR 12" HORIZONTAL  
NON-COMPLIANT RAMP (i.e. CONVENIENCE RAMP): MAX SLOPE = 1" VERTICAL FOR 8" HORIZONTAL
4. REFER TO SHEET 2 FOR TYPICAL DECK DETAILS
5. HANDRAILS ARE REQUIRED ON AT LEAST ONE SIDE OF RAMP.
6. REFER TO SHEET 3 FOR ALLOWABLE HANDRAIL PROFILES